

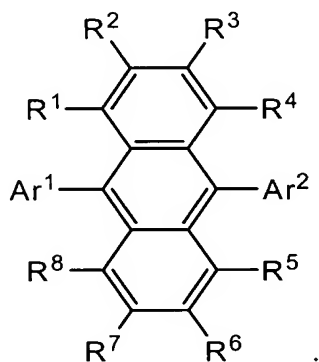
REMARKS/ARGUMENTS

Amended Claim 1 is supported, for example, at specification page 22, lines 14-29.

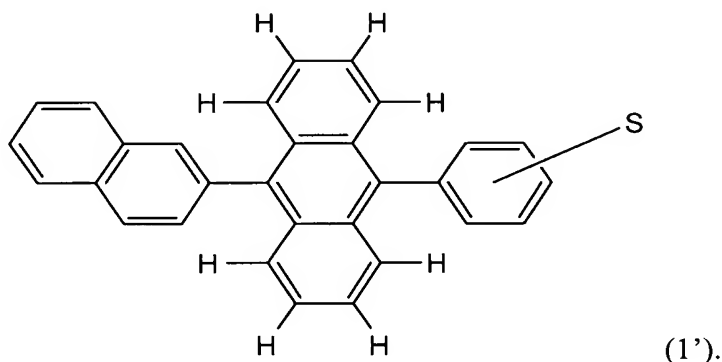
Amended Claims 7 and 20 are supported at previously presented Claims 7 and 20. No new matter is added.

The obviousness rejection of Claims 1-5 and 8-20 as being unpatentable in view of Ikeda and Fukuoka is traversed because the cited references do not describe every feature of present Claim 1 and the claims depending therefrom. Claim 1 is the sole independent claim.

The Office, at Official Action pages 4-5 of the Official Action, asserts that the compound of formula I of Compound 1 reads on Ikeda's compounds A-1 and A-2. This is incorrect. Formula (1) of present Claim 1 is reproduced below:

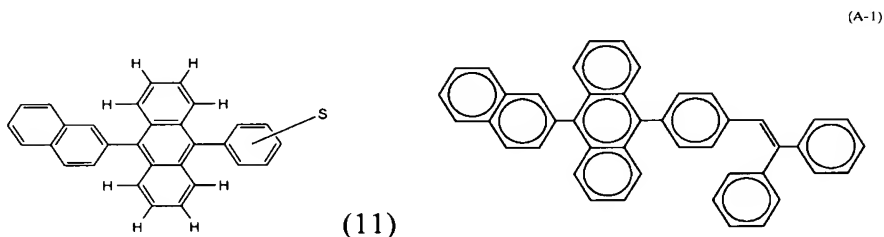


In the case where R¹-R⁸ in Formula (1) are hydrogen, Ar¹ is naphthyl, and Ar² is a substituted benzene ring (shown with substituent S), the compound of Formula (1) can become the compound of Formula (1') below:

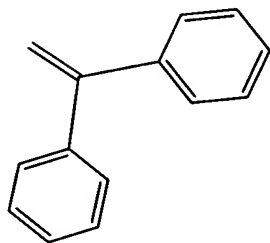


(1').

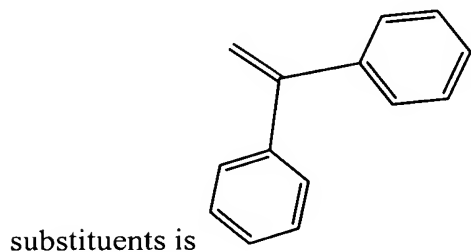
The compound of formula (1') and Ikeda's compound (A-1) are placed side by side below:



A comparison of the compound of formula (1') and compound A-1 of Ikeda shows that for the compound of formula (1), via formula (1'), of present Claim 1 to read on compound A-1 of Ikeda, the substituent S in the compound of formula (1') must be capable of being:



However, the substituent of the aryl ring Ar² in present Claim 1 (e.g., substituent S in formula (1')) is selected from the group consisting of a halogen atom, a hydroxyl group, a nitro group, a cyano group, an alkyl group, an aryl group, a cycloalkyl group, an alkoxy group, an aromatic heterocyclic group, an aralkyl group, an aryloxy group, an arylthio group, an alkoxycarbonyl group, a carboxyl group, and combinations thereof. None of these



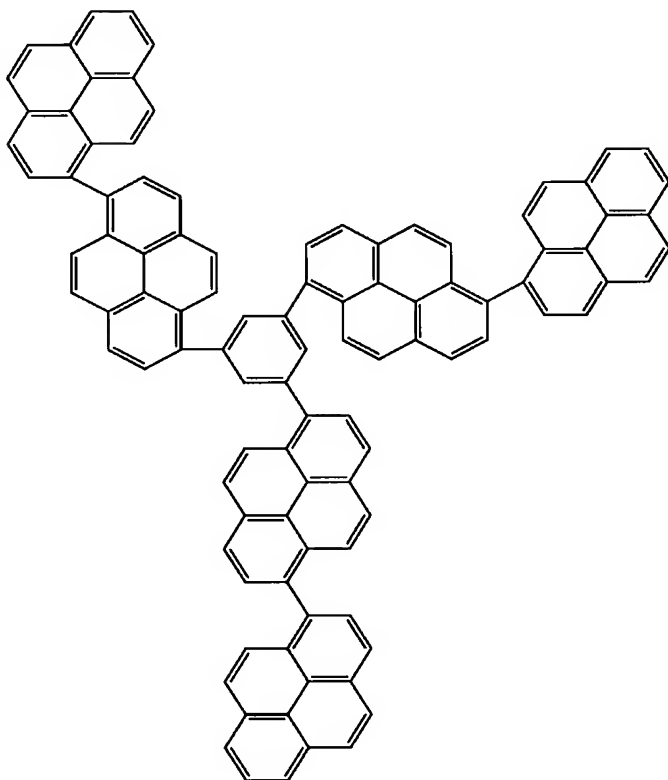
A similar analysis shows that formula (1) of present Claim 1 does not read on Ikeda's compound A-2. Fukuoka does not cure the deficiencies of Ikeda. The cited references do

not describe or suggest of the features of present Claim 1 and the claims depending therefrom. Withdrawal of the obviousness rejection is requested.

The obviousness rejection of Claims 6-7 as being unpatentable in view of Ikeda, Fukuoka, and Suzuki is traversed because the cited references do not describe or suggest all of the features of present Claims 6-7. Claims 6-7 depend from Claim 1. The Office, at Official Action page 6, acknowledges that “Ikeda in view of Fukuoka does not teach where the asymmetric compound is a compound that comprises a pyrene (formulae (V)-(IX)).” The Office therefore relies upon Suzuki to cure this deficiency.

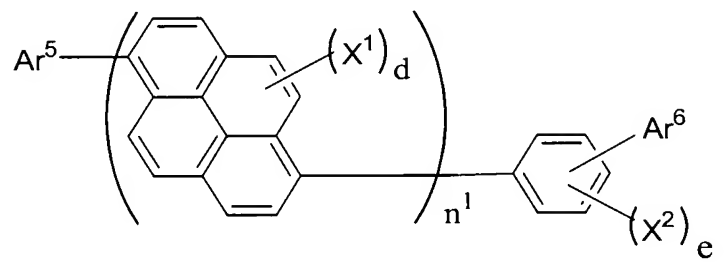
For example, the Office asserts that compound 27 of Suzuki as (sic) reading upon formula (VI) of present Claim 7 (see Official Action page 7). The Office's Assertion is wrong.

Compound 27 of Suzuki has the structure:

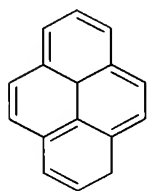


Compound 27.

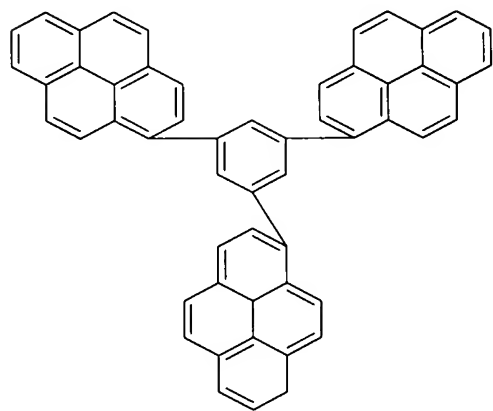
In present Claim 7, formula (VI) has the following structure:



In the case of Ar^5 , X^2 , and Ar^6 being a 1,5a¹-dihydropyrene group:



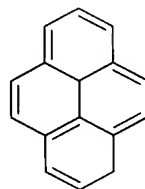
1,5a¹-dihydropyrene, n^1 and e each being 1, and d being 0, and the compound of formula (VI) can become the compound formula (VI'):



(VI').

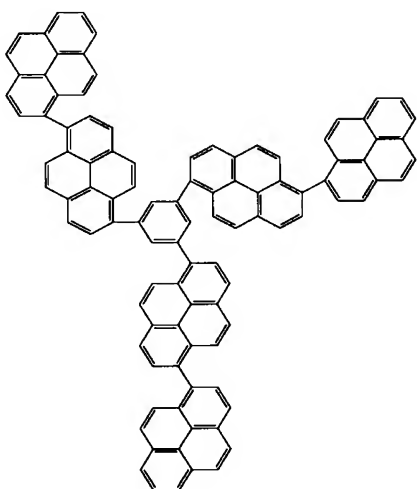
However, as described in present Claim 1, from which present Claim 7 depends, when Ar^5 , Ar^6 and/or X^2 is substituted by a substituent, the substituent is at least one selected from the group consisting of a halogen atom, a hydroxyl group, a nitro group, a cyano group, an alkyl group, a cycloalkyl group, an alkoxy group, an aromatic heterocyclic group, an aralkyl group,

an aryloxy group, an arylthio group, an alkoxycarbonyl group, a carboxyl group, and

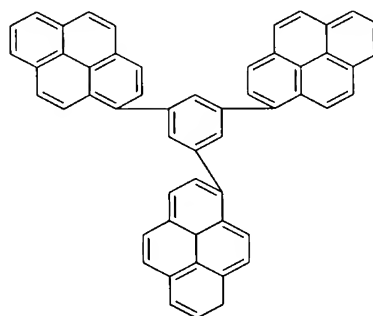


combinations thereof. None of these substituents is a 1,5a¹-dihydropyrene group.

Suzuki's compound 27, and the compound of formula (VI') are shown side by side below:



Compound 27



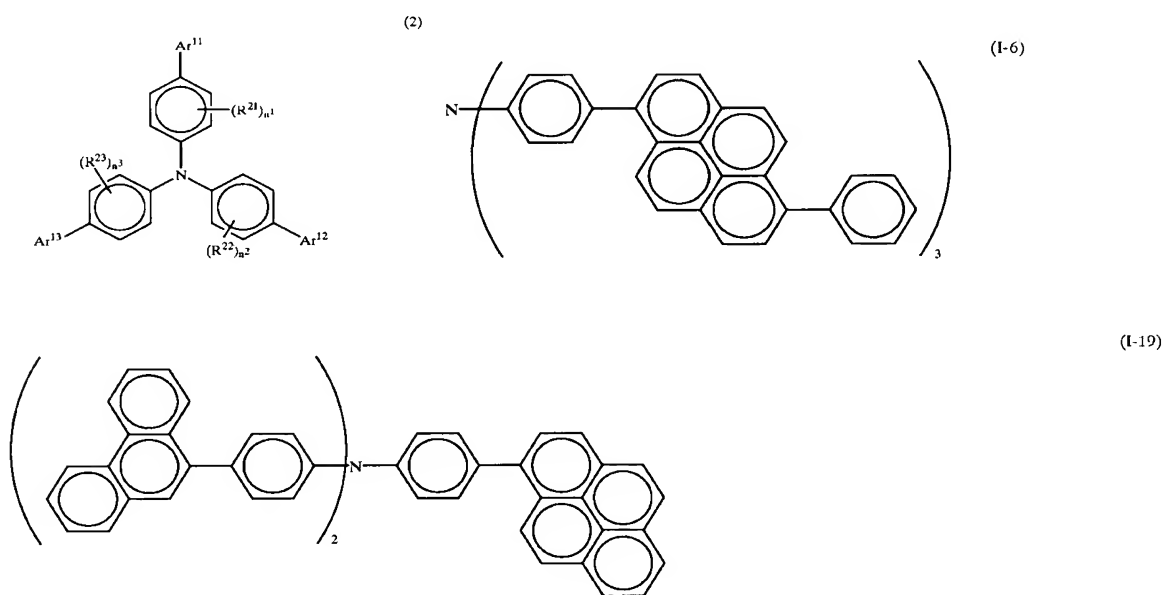
(VI')

Because none of the 1,5a¹-dihydropyrene groups in the compound of formula (VI') can be further substituted by another 1,5a¹-dihydropyrene group, the compound of formula (VI) of Claim 7 does not read on Compound 27 of Suzuki. Further, the Office has provided no reason to modify Compound 27 of Suzuki to arrive at the compound (VI'), and no reasonable expectation of success in achieving the modification. Accordingly, the cited references do not describe or suggest all of the features of present Claim 7. A similar analysis shows that the cited references do not describe or suggest all of the features of present Claim 6. Withdrawal of the obviousness rejection is requested.

The obviousness rejection of Claim 6 as being unpatentable in view of Ideda, Fukuoka, and Igarashi is traversed because the cited references do not describe or suggest all of the features of present Claim 6.

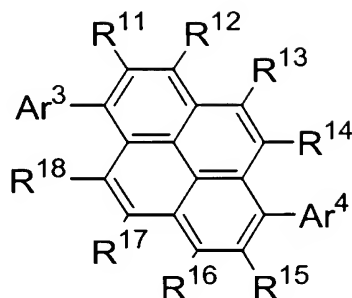
The Office, at Office Action page 8, acknowledges that “Ikeda in view of Fukuoka do not teach where the asymmetric compound is a compound that comprises a pyrene (formula (V)-(IX)).” The Office relies upon Igarashi to cure this deficiency. Igarashi does not cure the deficiencies of Ikeda and Fukuoka.

The Office, at Official Action pages 8-9, cites formula (2), compound 1-6, and compound 1-19 of Igarashi, reproduced below:



All of these compounds contain one nitrogen.

Formula (V) of present Claim 6 is reproduced below:



(V)

In formula 5, Ar³ and Ar⁴ each independently represent a substituted or unsubstituted aryl group having 6 to 50 nuclear carbon atoms, provided that Ar³ and Ar⁴ do not have the same structure; and

R¹¹ to R¹⁸ each independently represent a hydrogen atom, a substituted or unsubstituted aryl group having 6 to 50 nuclear carbon atoms, a substituted or unsubstituted aromatic heterocyclic group having 5 to 50 nuclear atoms, a substituted or unsubstituted alkyl group having 1 to 50 carbon atoms, a substituted or unsubstituted alkoxy group having 1 to 50 carbon atoms, a substituted or unsubstituted aralkyl group having 6 to 50 carbon atoms, a substituted or unsubstituted aryloxy group having 5 to 50 nuclear atoms, a substituted or unsubstituted arylthio group having 5 to 50 nuclear atoms, a substituted or unsubstituted alkoxycarbonyl group having 1 to 50 carbon atoms, a carboxyl group, a halogen atom, a cyano group, a nitro group, or a hydroxyl group.

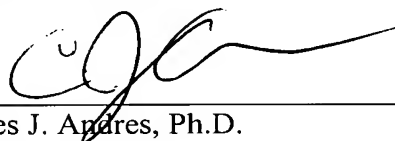
Further, Claim 6 depends from Claim 1, and Claim 1, concerning the compound of formula (V), describes that when Ar³ and/or Ar⁴ are substituted by a substituent, the substituent is at least one selected from the group consisting of a halogen atom, a hydroxyl group, a nitro group, a cyano group, an alkyl group, a cycloalkyl group, an alkoxy group, an aromatic heterocyclic group, an aralkyl group, an aryloxy group, an arylthio group, an alkoxycarbonyl group, a carboxyl group, and combinations thereof.

Given the above listed constraints, Applicants submit the Office a has failed to show how the compound of formula (V) of present Claim 6 can be made to read upon compounds 1-6, 1-19, and the compound of formula (2) of Igarashi. Because the cited references do not describe or suggest all of the features of present Claim 6, Claim 6 is not obvious in view of the cited references. Withdrawal of the obviousness rejection is requested.

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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